At a given London station the data for the half year, October to March, 1917–18, were:

Rainfall, 43 mm.; tar, 0.14 metric ton per square kilometer; carbonaceous matter other than tar, 2.18 tons; insoluble ash, 3.50; soluble ash, 4.15; or total solids, 11.41 tons. Of the soluble matter there were 1.46 tons of sulphate, 0.63 tons of chlorine, and 0.05 of ammonia.

No relationship can be discovered between the deposit of insoluble matter and the amount of rainfall. With the soluble matter, however, it is different, and in general it may be said to vary directly as the rainfall. The relation may be roughly expressed by the formula, $S = 0.058R + 2.5$, where R is the rainfall in mm. and S the deposit of soluble matter in tons per square kilometer. It is not suggested that this expression can be used to find the soluble deposit when the rainfall is known, but gives only the general nature of the relationship.

The report also contains the results of analysis of the rainfall at Georgetown, British Guiana, the nearest land in the direction of the prevailing east-northeast trade winds being the shore of Morocco, distant 3,000 nautical miles. There can be little doubt that the solids contained in the rain waters collected are those normal to the rains of the trade winds, with perhaps some derived from the coastal sea-spray.

The average results over the two years 1916 and 1917 were as follows:

	Solids in solution mg./liter.
Ca	7.95
Mg	3.44
K	2.77
Na	16.36
Al_2O_3	0.58
Fe_2O_3	1.97
SiO_2	0.20
Cl_2	33.93
SO_4	12.02
CO_3	9.78
NO_3	11.57
NH_4	0.12
	100.69

It is shown that 55 per cent of the solids in solution in the rainfall are cyclic sea salts, while 45 per cent must have been derived from atmospheric sources.

The report also contains an account of certain experiments made to determine the best method of measuring continuously the suspended impurity in the air.—*A. M.*

STUDY OF AEROLOGY IN THE AIR SERVICES.

[Reprinted from Aviation, New York, Nov. 15, 1919, p. 354.]

The Aerological School maintained at the Navy Air Station, Pensacola, Fla., will have an accession of 15 enlisted men to start the four months' prescribed course opening on December 1. Six of the students come from the Navy Air Service, three from the Marine Corps and six from the Army Air Service. The class of six with which the school opened is receiving training in aerology preliminary to taking the advanced course which will be maintained at the Weather Bureau in Washington, D. C.

AN INTERESTING OBSERVATION OF ATMOSPHERIC OZONE.

By HENRY I. BALDWIN.

[Dated: Saranac Lake, N. Y., Dec. 1, 1919.]

An interesting observation of ozone in nature was made by the writer on the summit of Haystack Mount (altitude 4918 feet), near Mount Marcy in the Adirondacks at 9:30 a. m., September 8, 1919. The wind at the time was from the west-southwest, having a velocity of approximately 35 miles per hour. The air temperature was probably about 60° F., although no instruments were available for taking observations. Wisps of fracto-stratus cloud were being blown across the rocky peak while 600 feet above were irregular masses of strato-cumulus. In these rapidly moving fragments of fracto-stratus clouds a very strong, pungent odor was perceptible, similar to that noticed near static machines and dynamos. Three hours earlier, that morning, several silent discharges had been seen in the clouds above the mountain, and then, at 3 p. m., a violent thunderstorm broke over the surrounding country.

The writer was at first inclined to believe the odor due to ozone liberated by electricity generated from friction of the clouds with the mountain. One author was found mentioning this as a cause of atmospheric ozone, but Prof. Humphreys's explanation is much more logical:

"There is no reason to expect the atmosphere to become electrified as a result of friction as it blows over mountain peaks, except, perhaps, when it is filled with heavy dust—when it is likely to be already considerably electrified."

"It often happens, however, that mountain peaks give off a great deal of silently discharged electricity, and this discharge may, at times and places, be sufficiently abundant to produce enough ozone and oxides of nitrogen (often mistaken for ozone), to be distinctly perceptible."

Since there was a negligible amount of dust present in this case, the ozone was formed in all probability by some form of electrical discharge which had taken place, or was taking place in the clouds. The effect may have been rendered more noticeable by moisture.

NITROGEN AND OTHER COMPOUNDS IN RAIN AND SNOW.

By J. E. TRIESCHMANN.

[Reprinted from Science Abstracts, Sect. A, Sept. 30, 1919, §1161.]

The paper summarises the results of an analysis of the impurities brought down in rain and snow at Mt. Vernon, Iowa, over a period of eight and one-half months. The town is small and without manufactories, so that there is no excessive local contamination. The precipitation (22¼ inches) supplied during the period 512 pounds of chlorine, 1.5 pounds of sulphates, and 5.3 pounds of nitrates per acre. The presence of the chlorine has been ascribed to salt particles carried from the Atlantic. The average part per million for free ammonia was 0.407; albuminoid ammonia, 0.366; nitrates, 0.255; and nitrites, 0.018. Rain was found to be richer in nitrogen contents than snow. [See also Abs. 146 (1919) to be reprinted in the next issue of the REVIEW.]—*J. S. Di[nes]*.

SIMPLE FORM OF APPARATUS FOR ESTIMATING THE OXYGEN CONTENT OF AIR FROM THE UPPER ATMOSPHERE.

By F. W. ASTON.

[Reprinted from Science Abstracts, Sect. A, Aug. 30, 1919, §1001.]

In the apparatus described a sample of about 10 cm. of air is drawn into a burette and by adjustment of a mercury column is compressed or expanded slightly so as to occupy a standard volume. The height of the mercury column is marked and the air then withdrawn and deoxidised by means of heated phosphorus. It is again